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The spatial distribution of turbulent energy dissipation rate in the mouth of the Yangtze River in summer

Chunhua Qiu
China (qiuchh3@mail.sysu.edu.cn)

The spatial distribution of the turbulent energy dissipation rates(TEDR) is very important to understand the mixing in the Yangtze river. Three sections are adopted cross the Yangtze rive for this study. We investigate the TEDR in the three sections using MSS-90L. They have different patterns vertically in the different sections. In the coastal area(Section A), the TEDR have semilunar patterns with large values in the surface and the bottom of the water, and smallest values in the middle of the water. In the mouth of the Yangtze river(Section B and Section C), the pattern of the TEDR are random vertically in different stations. In the three sections, the vertically averaged or integrated TEDR are in reverse ratio to water depths. In section A, the averaged TEDR is from 10-8W/kg$\sim$10-6W/kg from offshore to nearshore. In Section B, the averaged TEDR is from 10-7W/kg$\sim$10-6W/kg. And in section C, the averaged TEDR is from 10-7W/kg$\sim$10-5W/kg. Finally, we compare the observed TEDR and the calculated TEDR by the vertical shear of velocity and stratification of the density.